INCIDENT: OTCW Oil to Lake Michigan

LOCATION: Whiting Refinery Lakefront, IN
SUBJECT: Oiled Shoreline Assessment (SCAT) Report
DATE: 26th March 2014

**SURVEY TEAM:**

| Name: | Organization: |
|---|---|
| Ed Owens | BP-OCC |
| Stephane Grenon | BP-OCC |
| Jeremy Thomas | USCG |
| Parker Wood | USCG |
| Chris Payne | USCG |
| Beverly Kush | EPA |
| Verneta Simon | EPA |
| Sean Kane | EPA-START |

**Geographic Area** (see attached map)
The shoreline had been divided into segments A through G based on physical shore-zone character. Segments D, E and F were surveyed on foot on the morning of 26th March 2014.

**General Observations:**

- No oil was observed on the water surface from the shoreline.
- No sheens were generated when oiled materials were placed in the water and agitated.
- The observed oil was black and shiny.
- No pits were dug as there was no evidence to suggest burial by sand or penetration into the pebbles/cobbles as the sand was hard (frozen) and the pebbles/cobbles "cemented" by ice (pitting is planned for subsequent site surveys on warmer days).
- A boat survey was scheduled for the late afternoon of 26th March and the observations will be reported in the SCAT Report for 27th March.

**Oiling Observations:**

SUMMARY

| SEGMENT | SHORE TYPE | OBSERVED OILING |
|---|---|---|
| D | Rip Rap | NOO except for one 1 m sq patch of 1-10% tar balls, average 1-3 cm size, < 1 cm thick |
| E | Sand, some shell hash | < 1% tar balls, average 0.5 to 1.0 cm size, < 1 cm thick |
| F | Pebble-cobble (frozen) | 1 tar ball per meter length, average 1-3 cm size, < 1 cm thick |

SEGMENT D

- NOO (No Observed Oil) on the sheet metal or rip rap material adjacent to the outfall based on observations from the walkway above the outfall and from the adjacent scaffolding that crosses down to the water line. (Note: the rip rap materials are very light in color which facilitated observations had any black oil been present on the outer surfaces of the rip rap).

- An area approximately 1 m square of 1-10% distribution of tar balls was observed at the most southern end of the rip rap at the junction with the sand beach of Segment E. The oil was a semi solid, shiny black COVER/COAT of 1-3 cm size tar balls. (COVER = 0.1-1.0 cm thick: COAT = <0.1 cm thick).

SEGMENT E

- Surface oil was observed at less than a 1% distribution of tar balls, the majority of which were 0.5-1.0 cm diameter with a maximum of 5 cm size.
- Similar low concentrations were observed in two small areas (several meters long) of shell hash.
- Many "false positives" were observed that included coal, wood, shell and vegetation.
- The fine sand size and the hard, frozen nature of the beach would not have been conducive to penetration or burial. Future surveys will include pitting to determine any presence of subsurface oil.

SEGMENT F

- Surface oil tar balls were observed at a frequency of 1 per 1-m length (distribution <1%) on the pebble-cobble sediments. These tar balls were typically COAT thickness and in the 1-3 cm size range with an observed maximum of 10 cm.
- The pebble-cobble sediments were frozen with wave swash/spray so no penetration was likely.

**Future Activities:**

- In all three segments, monitor to ensure that no further "new" oil is stranded
- One boat survey scheduled for the late afternoon of 26th March to focus on (a) the rip rap sections of Segment D that cannot be reached safely by foot and (b) potential sunken oil in previously noted nearshore "dark" areas using an underwater real-time observation camera, a viewing tube and a pole for disturbance.
- Two, each morning and afternoon, foot surveys are planned with one SCAT team for Thursday (27th) and Friday (28th). Dig pits in Segment E to look for any subsurface oil.
- In particular, re-survey the accessible shoreline areas after the anticipated poor weather (winds) on Thursday 27th March.
- Prepare revisions and updates to this SCAT report as appropriate following each day of observations.

**Treatment Recommendations:**

- Recommend the need for one small (approximately 5 person) shoreline cleanup crew.
- Recommended that the crew:
    - sweep the area within approximately 10 feet of the water line,
    - remove any oil larger than 1 inch that is accessible and that can be picked up by hand or with a shovel,
    - rake the two shell hash areas, spread out the shells, pick up oily clumps >1 inch size,
    - do not scrape oil from hard surfaces (rip rap material) or pebbles-cobbles,
    - sweep twice each day, once early in the morning and once in late afternoon, and
    - beginning at the most easterly accessible point in Segment F and working towards the west to end at the rip rap in segment D.
- No vehicles or night lights are recommended for use in Segment E for shoreline cleanup.
- Avoid foot traffic and all vehicle traffic in the vegetated areas (even if the plants appear "dead").
- Set aside the waste bags so that they can be inspected at the end of each day.